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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,449	07/31/2003	Lynn Bich-Quy Le	1229.0001	3797
Jeffrey Wax Wax Law Group Suite 407 2118 Wilshire Boulevard Santa Monica, CA 90403	7590 11/02/2007		EXAMINER KRAUSE, JUSTIN MITCHELL	
			ART UNIT 3682	PAPER NUMBER
			MAIL DATE 11/02/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/632,449	Applicant(s) LE ET AL.	
	Examiner Justin Krause	Art Unit 3682	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-21 and 31-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40 and 41 is/are allowed.
- 6) ☒ Claim(s) 15-21 and 31-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 13, 2007 has been entered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 18-20, 31-36, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Polch et al (US Patent 5,533,811).

Polch discloses a spindle motor comprising:

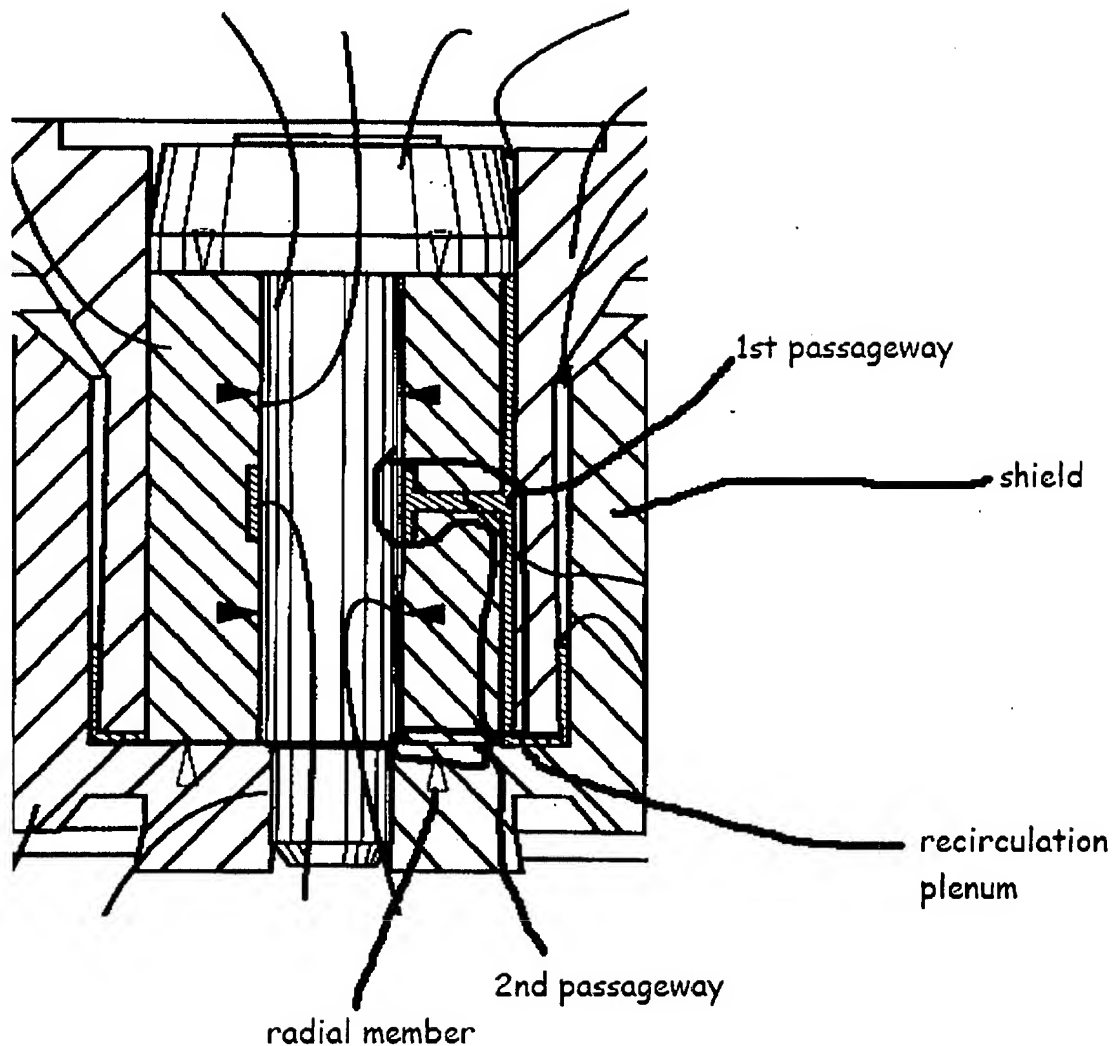
A journal bearing (110) defined between an inner(82) and outer (80+90) component positioned for relative rotation

A fluid recirculation passageway including a first fluid passageway defined in the outer component and in fluid communication with a second fluid passageway defined between the outer component and a radial member extending radially from the inner

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component, wherein the first and second fluid passageways are in fluid communication with the journal at separate locations ( see figure below),

A shield (86) connected one of the stationary and the rotatable component, defining a reservoir (104) with the outer component, wherein the reservoir is a receptacle for fluid volume changes within the motor and for any air from the fluid, the fluid enters and exits the reservoir at a recirculation plenum defined by a junction joining the reservoir, and first and second fluid passageways, and the reservoir is sealed with a capillary seal.



Regarding claim 31, the inner component is a shaft, the outer component is a sleeve.

Regarding claim 32, the first fluid passageway is defined through a sleeve (generally 94 and the vertical passage through the sleeve, see figure above).

Regarding claim 33, the second fluid passageway is defined between the outer component and the thrust plate.

Regarding claim 34, the device comprises means for creating an asymmetric pressure gradient within the fluid recirculation passageway, circulating fluid and purging air in the fluid, wherein the fluid circulates about a substantial portion of the journal, the first fluid passageway and the second fluid passageway. The fluid is circulated through the bearing as a result of grooving within the bearing gap to pressurize the fluid.

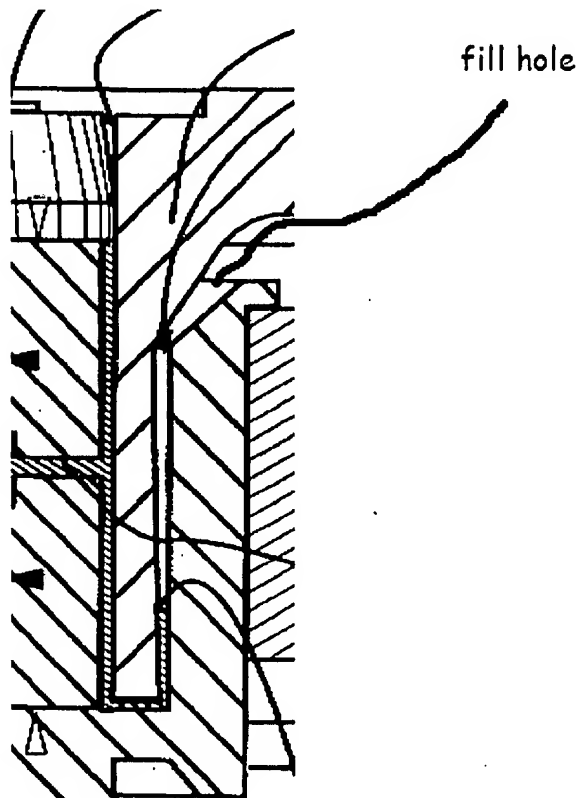
Regarding claim 35, the shield and outer component form adjacent surfaces, the adjacent surfaces are relatively tapered (see fig 8) and converge toward the recirculation plenum.

Regarding claim 36, the use of the shield as a travel limiter is an intended use or function of previously claimed structure and does not further limit the structure of the device (see MPEP 2114), however the examiner notes that in the device of Polch, the shield is capable of being a travel limiter for the outer component.

Regarding claim 39, a variable journal bearing gap is disclosed and is radially wider substantially adjacent to a journal plenum as compared to the remainder of the journal bearing, wherein the journal plenum is defined at a joining position of the first fluid passageway and the journal bearing (fig 8)

Regarding claim 18, axial channels are located on at least a portion of an inner surface of the shield, extending from the recirculation plenum and along the reservoir and allow air to move along the channels and be purged from the fluid. The channel begins at the recirculation plenum and continues to the top of the shield, where air is capable of being vented out of the system.

Regarding claim 19, a fill hole (see fig below) is defined within the shield, wherein a meniscus is positioned between the fill hole and the fluid in the reservoir, the fill hole making an angle with the surface of the shield.



Regarding claim 20, the inner component is affixed relative to a base and to a top cover plate, the outer component rotates relative to the inner component.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 21 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polch.

Regarding claims 17 and 21, while Polch does not disclose the reservoir to hold up to 2.5 mg of fluid or that the engagement interface of the radial member with a base ranges from 3-5mm, the selection of dimensions is contingent on the size/scale of the device and is a matter of suitability for the intended use, which is not in itself patentable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reservoir of Polch to hold up to 2.5 mg of fluid and the interface of the base and radial member to be 3-5mm as a matter of suitability for the intended use of the design. A change in size or scale is generally recognized as being within the level of ordinary skill in the art. *In Re Rose, 105 USPQ 237 (CCPA 1955)*.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polch as applied to claim 15 above, further in view of Fukutani (US Patent 5,647,672).

Polch discloses that "appropriate pressure inducing patterns" maybe inscribed on the shaft or the sleeve (col 6, lines 10-14) but does not specifically disclose a symmetrical grooving pattern comprising one of a herringbone or sinusoidal pattern.



Fukutani teaches the use of symmetric herringbone grooves (12a) for the purpose of generating dynamic pressure within the lubricant fluid to enable the shaft to rotate without contacting the sleeve radially (Col 5, lines 48-51).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Polch to include symmetric herringbone grooves for the desired purpose of generating dynamic pressure within the lubricant fluid to enable the shaft to rotate without contacting the sleeve radially as taught by Fukutani.

***Allowable Subject Matter***

Claims 40 and 41 allowed.

***Double Patenting***

Claims 16 and 38 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 40 and 41. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Conclusion***

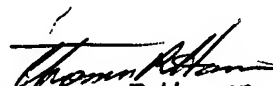
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK  
JMK 10/28/07

  
Thomas R. Hannon  
Primary Examiner